TECHNICAL NOTES

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The Local Spread of Oak Wilt, 1955 to 1956

Oak wilt can be transmitted through natural root grafts. The enlargement of established infection centers apparently depends primarily upon the effectiveness of these grafts in transmitting the fungus to adjoining trees.

In 1955 an oak wilt survey was initiated in central Wisconsin and southeastern Minnesota to measure the rate of spread for existing oak wilt infection centers. The primary objectives are to provide information on the rate at which the oak type area is being invaded by wilt and to determine whether this rate is constant or varies appreciably from year to year for relatively large, widespread populations of infection centers. Permanent plots have been established in infection centers from which it is possible for the wilt to advance in at least three directions. Annual remeasurements are taken to determine if any new trees have become infected which increase the area of the center. During the first year any increase in center size was usually in 1 or 2 directions, and in no instance were all 4 directions involved. The average radial spread was computed by dividing the actual amount of spread by the number of possible directions in which the wilt could advance.

The 1956 remeasurement indicates the activity during the preceding year (table 1). Of 37 plots, 20 were found to be active, and their average radial spread was 6.5 feet. The average radial spread of all plots was 3.5 feet.

Table 1.--Activity within established oak wilt infection centers

County	All centers	Active centers	Average radial spread in--	
			Active centers	All centers
	Number	Number	Feet	Feet
Washington, Minn.	3	1	11.3	3.8
Houston, Minn.	7	5	4.4	3.1
Adams, Wis.	15	11	7.2	5.3
Jackson, Wis.	12	3	5.7	1.4
All	37	20	6.5	3.5

The number of plots per county is not yet large enough to be very reliable, but it is of interest to note that only 25 percent of the centers in Jackson County, Wis., were active while 68 percent of the other centers showed activity. This cannot be explained at present on the basis of available data. More plots are being established as conditions permit, with a goal of 25 per county.

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